

Choose the Correct Answer:

1.	The S.S. of the equation : $x^2 = 9$ in \mathbb{N} is (a) \emptyset (b) $\{-3\}$ (c) $\{3\}$ (d) $\{-3, 3\}$			
2.	If $x^3 y^{-3} = 8$, then $\frac{y}{x} =$ (a) $\frac{1}{512}$ (b) $\frac{1}{8}$ (c) $\frac{1}{2}$ (d) 2			
3.	The S.S. of the equation : $x^2 - x = 0$ is where $x \in \mathbb{R}$ (a) $\{0\}$ (b) \emptyset (c) $\{0, 1\}$ (d) $\{1\}$			
4.	The S.S. of the equation : $x^2 - 5x + 6 = 0$ is where $x \in \mathbb{R}$ (a) $\{1, 6\}$ (b) $\{-1, -6\}$ (c) $\{2, 3\}$ (d) $\{-3, -2\}$			
5.	The solution set of the equation : $x^2 + 25 = 0$ in \mathbb{R} is (a) $\{-5, 5\}$ (b) $\{5\}$ (c) $\{-5\}$ (d) \emptyset			
6.	If $\left(\frac{5}{3}\right)^x = \left(\frac{3}{5}\right)^2$, then $x =$ (a) -2 (b) 2 (c) $\frac{1}{2}$ (d) $-\frac{1}{2}$			
7.	If $6^x = 7$, then $6^{x+1} =$ (a) 42 (b) $\frac{7}{6}$ (c) 1 (d) 6			
8.	$4^3 + 4^3 + 4^3 + 4^3 =$ (a) 4^{12} (b) 4^9 (c) 4^4 (d) 4^{81}			
9.	The solution set of equation : $x^2 - 5x + 4 = 0$ in \mathbb{R} is (a) $\{1, 4\}$ (b) $\{2, -2\}$ (c) \emptyset (d) $\{1\}$			
10.	$3^{\text{zero}} + 3^{-1} - \left(\frac{1}{\sqrt{3}}\right)^2 =$ (a) 3 (b) 1 (c) $\frac{1}{3}$ (d) 0			
11.	* If $x + y = 3$, $x^2 - xy + y^2 = 5$, then $x^3 + y^3 =$ (a) 15 (b) 25 (c) 8 (d) 7			
12.	If $(x-2)^0 = 1$, then $x \neq$ (a) 3 (b) 2 (c) 1 (d) -3			
13.	If $5^x = 4$, then $5^{x-1} =$ (a) 1.25 (b) 0.8 (c) 0.125 (d) 0.08			
14.	If $x = \frac{\sqrt{8}}{\sqrt{2}}$, then $x^{-1} =$ (a) 2 (b) -2 (c) $\frac{1}{2}$ (d) $-\frac{1}{2}$			

15.	$\left(\frac{\sqrt{5}}{3}\right)^{-2} = \dots$	(a) $\frac{9}{5}$	(b) $-\frac{9}{5}$	(c) $-\frac{5}{9}$	(d) $\frac{5}{9}$
16.	If $3^x + 3^x + 3^x = 1$, then $x = \dots$	(a) -1	(b) 0	(c) 1	(d) 2
17.	$2^{12} \times 3^{12} = \dots$	(a) 6^2	(b) 6^4	(c) 6^{12}	(d) 6^{24}
18.	3^{-2} equals \dots	(a) 9	(b) $\frac{1}{9}$	(c) $-\frac{1}{9}$	(d) -9
19.	If $7^{x-3} = 5^{x-3}$, then $x = \dots$	(a) 5	(b) 7	(c) 3	(d) 0

Complete:

20.	The solution set of the equation : $x^2 - 1 = 8$, where $x \in \mathbb{Z}$ is \dots
21.	The S.S. of the equation : $x^2 - 3 = 0$ in \mathbb{R} \dots
22.	$x^3 - \dots = (x - 2) (\dots + 2x + 4)$
23.	$(5x - 2y)(25x^2 + 10xy + 4y^2) = \dots$
24.	The S.S. of the following equation : $(x^2 + 3)(x^3 + 1) = 0$ in \mathbb{R} is \dots
25.	$y^3 - 8 = (\dots - \dots)(x^2 + 2x + \dots)$
26.	$(a + b)x + (a + b)y = (a + \dots)(\dots + \dots)$
27.	Fifth the number 5^{20} is \dots
28.	If $3^x = 5$, then $(27)^x = \dots$
29.	The solution set of the equation : $x^2 + 1 = 0$ in \mathbb{R} is \dots
30.	If $x + y = 7$ and $a - 2b = 4$, then the numerical value of the expression : $a(x + y) - 2b(x + y) = \dots$
31.	If $\left(\frac{2}{3}\right)^x = \frac{27}{8}$, then $x = \dots$
32.	If $x^3 y^{-3} = 8$, then $\frac{y}{x} = \dots$
33.	If $5^{x-2} = 1$, then $x = \dots$

34. The S.S. of the equation : $X^2 - 16 = 0$ in \mathbb{R} is

35. The number $(\sqrt{2})^{-4}$ in simplest form is

36. If $X = (\sqrt{5} - 2)^7$ and $y = (\sqrt{5} + 2)^7$, then $X y =$

37. If $X = 3$ is a solution of the equation : $X^2 + 2X + k = 0$, then $k =$

38. The solution set of the equation : $X^2 + 4 = 0$ in \mathbb{R} is

39. If $3^{X-2} = 27$, then $X =$

40. $(\frac{3}{5})^X = \frac{27}{125}$, then $X =$

41. If $3^X = 81$, then $X =$

42. The age of a man now X years, then his age 7 years ago is years.

Choose the Correct Answer:

43. A rhombus whose diagonals lengths are 6 cm. , 10 cm. has area cm^2
 (a) 60 (b) 30 (c) 15 (d) 10

44. The ratio between the lengths of two corresponding sides of two similar polygons is $3 : 5$, then the ratio between their perimeters is
 (a) $2 : 5$ (b) $5 : 3$ (c) $3 : 5$ (d) $1 : 2$

45. If the area of a trapezium is 100 cm^2 and its height is 5 cm. , then the length of its middle base = cm.
 (a) 20 (b) 30 (c) 40 (d) 50

46. If two polygons are similar and the ratio between the lengths of two corresponding sides is $1 : 3$ and the perimeter of the smaller polygon is 15 cm. , then the perimeter of the greater polygon is cm.
 (a) 30 (b) 45 (c) 60 (d) 75

47. A square of perimeter 20 cm. , then its area equals cm^2
 (a) 20 (b) 25 (c) 50 (d) 100

48. All are similar.
 (a) squares (b) triangles (c) rectangles (d) parallelograms

49. A square of diagonal length 12 cm. , then its area = cm^2
 (a) 24 (b) 36 (c) 48 (d) 72

50.	If $\Delta ABC \sim \Delta XYZ$, $m(\angle B) = 50^\circ$, then $m(\angle Y) = \dots$			
	(a) 30°	(b) 40°	(c) 50°	(d) 60°
51.	If the ratio between the length of two corresponding sides in two similar triangles is equal to 1, then the two triangles are \dots			
	(a) congruent.	(b) different.	(c) parallel.	(d) otherwise.
52.	If the ratio of enlargement between two similar triangles equals \dots , then the two triangles are congruent.			
	(a) 1	(b) 2	(c) 0.5	(d) 0.25
53.	If $\Delta ABC \sim \Delta DEO$, $AB = \frac{1}{3} DE$, then the perimeter of ΔABC equals \dots the perimeter of ΔDEO			
	(a) $\frac{1}{3}$	(b) $\frac{1}{2}$	(c) 3	(d) 9
54.	Trapezium of length of its middle base 8 cm. and surface area 56 cm^2 , then its height = \dots cm.			
	(a) 32	(b) 24	(c) 448	(d) 7
55.	The area of the trapezium whose middle bases 7 cm., and height 6 cm. = $\dots \text{ cm}^2$			
	(a) 21	(b) 42	(c) 40	(d) 13
Complete:				
56.	A trapezium whose bases lengths are 8 cm., 10 cm. and its height is 5 cm., then its area equals $\dots \text{ cm}^2$			
57.	The two polygons are similar if their corresponding sides are \dots and their corresponding angles are \dots			
58.	The area of a rhombus is 24 cm^2 , the length of one of its diagonals is 8 cm., then the length of the other diagonal is \dots			
59.	The square whose length of its diagonal 8 cm., then its area = $\dots \text{ cm}^2$			
60.	If $\Delta ABC \sim \Delta XYZ$, $m(\angle A) + m(\angle B) = 60^\circ$, then $m(\angle Z) = \dots$			
61.	The area of the trapezium whose parallel bases 6 cm., 10 cm. and height 5 cm. equals \dots			
62.	The two polygons are similar to a third are \dots			
63.	The area of rhombus whose perimeter is 20 cm. and height 4 cm. = \dots			
64.	The diagonal of a square whose area 50 cm^2 equals \dots cm.			
65.	A square of diagonal length 12 cm., then its area = $\dots \text{ cm}^2$			

Choose the Correct Answer:

1.	The S.S. of the equation : $x^2 = 9$ in \mathbb{N} is			
	(a) \emptyset	(b) $\{-3\}$	(c) $\{3\}$	(d) $\{-3, 3\}$
2.	If $x^3 y^{-3} = 8$, then $\frac{y}{x} =$			
	(a) $\frac{1}{512}$	(b) $\frac{1}{8}$	(c) $\frac{1}{2}$	(d) 2
3.	The S.S. of the equation : $x^2 - x = 0$ is where $x \in \mathbb{R}$			
	(a) $\{0\}$	(b) \emptyset	(c) $\{0, 1\}$	(d) $\{1\}$
4.	The S.S. of the equation : $x^2 - 5x + 6 = 0$ is where $x \in \mathbb{R}$			
	(a) $\{1, 6\}$	(b) $\{-1, -6\}$	(c) $\{2, 3\}$	(d) $\{-3, -2\}$
5.	The solution set of the equation : $x^2 + 25 = 0$ in \mathbb{R} is			
	(a) $\{-5, 5\}$	(b) $\{5\}$	(c) $\{-5\}$	(d) \emptyset
6.	If $\left(\frac{5}{3}\right)^x = \left(\frac{3}{5}\right)^2$, then $x =$			
	(a) -2	(b) 2	(c) $\frac{1}{2}$	(d) $-\frac{1}{2}$
7.	If $6^x = 7$, then $6^{x+1} =$			
	(a) 42	(b) $\frac{7}{6}$	(c) 1	(d) 6
8.	$4^3 + 4^3 + 4^3 + 4^3 =$			
	(a) 4^{12}	(b) 4^9	(c) 4^4	(d) 4^{81}
9.	The solution set of equation : $x^2 - 5x + 4 = 0$ in \mathbb{R} is			
	(a) $\{1, 4\}$	(b) $\{2, -2\}$	(c) \emptyset	(d) $\{1\}$
10.	$3^{\text{zero}} + 3^{-1} - \left(\frac{1}{\sqrt{3}}\right)^2 =$			
	(a) 3	(b) 1	(c) $\frac{1}{3}$	(d) 0
11.	* If $x + y = 3$, $x^2 - xy + y^2 = 5$, then $x^3 + y^3 =$			
	(a) 15	(b) 25	(c) 8	(d) 7
12.	If $(x-2)^0 = 1$, then $x \neq$			
	(a) 3	(b) 2	(c) 1	(d) -3
13.	If $5^x = 4$, then $5^{x-1} =$			
	(a) 1.25	(b) 0.8	(c) 0.125	(d) 0.08
14.	If $x = \frac{\sqrt{8}}{\sqrt{2}}$, then $x^{-1} =$			
	(a) 2	(b) -2	(c) $\frac{1}{2}$	(d) $-\frac{1}{2}$

15.	$\left(\frac{\sqrt{5}}{3}\right)^{-2} = \dots$		
	(a) $\frac{9}{5}$	(b) $-\frac{9}{5}$	(c) $-\frac{5}{9}$
16.	If $3^x + 3^x + 3^x = 1$, then $x = \dots$		
	(a) -1	(b) 0	(c) 1
17.	$2^{12} \times 3^{12} = \dots$		
	(a) 6^2	(b) 6^4	(c) 6^{12}
18.	3^{-2} equals \dots		
	(a) 9	(b) $\frac{1}{9}$	(c) $-\frac{1}{9}$
19.	If $7^{x-3} = 5^{x-3}$, then $x = \dots$		
	(a) 5	(b) 7	(c) 3
	Complete:		
20.	The solution set of the equation : $x^2 - 1 = 8$, where $x \in \mathbb{Z}$ is $\{3, -3\}$		
21.	The S.S. of the equation : $x^2 - 3 = 0$ in \mathbb{R} $\{\pm\sqrt{3}\}$		
22.	$x^3 - 8 = (x - 2)(x^2 + 2x + 4)$		
23.	$(5x - 2y)(25x^2 + 10xy + 4y^2) = 125x^3 - 8y^3$		
24.	The S.S. of the following equation : $(x^2 + 3)(x^3 + 1) = 0$ in \mathbb{R} is $\{-1\}$		
25.	$x^3 - 8 = (x - 2)(x^2 + 2x + 4)$		
26.	$(a + b)x + (a + b)y = (a + b)(x + y)$		
27.	Fifth the number 5^{20} is 5^9		
28.	If $3^x = 5$, then $(27)^x = 125$		
29.	The solution set of the equation : $x^2 + 1 = 0$ in \mathbb{R} is \emptyset		
30.	If $x + y = 7$ and $a - 2b = 4$, then the numerical value of the expression : $a(x + y) - 2b(x + y) = 28$		
31.	If $\left(\frac{2}{3}\right)^x = \frac{27}{8}$, then $x = -3$		
32.	If $x^3 y^{-3} = 8$, then $\frac{y}{x} = \frac{1}{2}$		
33.	If $5^{x-2} = 1$, then $x = 2$		

34. The S.S. of the equation : $x^2 - 16 = 0$ in \mathbb{R} is $\{ \pm 4 \}$

35. The number $(\sqrt{2})^{-4}$ in simplest form is $\frac{1}{4}$

36. If $x = (\sqrt{5} - 2)^7$ and $y = (\sqrt{5} + 2)^7$, then $xy = \dots$

37. If $x = 3$ is a solution of the equation : $x^2 + 2x + k = 0$, then $k = \dots - 15$

38. The solution set of the equation : $x^2 + 4 = 0$ in \mathbb{R} is $\{ \}$

39. If $3^{x-2} = 27$, then $x = \dots 5$

40. $(\frac{3}{5})^x = \frac{27}{125}$, then $x = \dots -3$

41. If $3^x = 81$, then $x = \dots 4$

42. The age of a man now x years, then his age 7 years ago is $x-7$ years.

Choose the Correct Answer:

43. A rhombus whose diagonals lengths are 6 cm. , 10 cm. has area cm^2
 (a) 60 (b) 30 (c) 15 (d) 10

44. The ratio between the lengths of two corresponding sides of two similar polygons is $3 : 5$, then the ratio between their perimeters is
 (a) $2 : 5$ (b) $5 : 3$ (c) $3 : 5$ (d) $1 : 2$

45. If the area of a trapezium is 100 cm^2 and its height is 5 cm. , then the length of its middle base = cm.
 (a) 20 (b) 30 (c) 40 (d) 50

46. If two polygons are similar and the ratio between the lengths of two corresponding sides is $1 : 3$ and the perimeter of the smaller polygon is 15 cm. , then the perimeter of the greater polygon is cm.
 (a) 30 (b) 45 (c) 60 (d) 75

47. A square of perimeter 20 cm. , then its area equals cm^2
 (a) 20 (b) 25 (c) 50 (d) 100

48. All are similar.
 (a) squares (b) triangles (c) rectangles (d) parallelograms

49. A square of diagonal length 12 cm. , then its area = cm^2
 (a) 24 (b) 36 (c) 48 (d) 72

50. If $\Delta ABC \sim \Delta XYZ$, $m(\angle B) = 50^\circ$, then $m(\angle Y) = \dots$
 (a) 30° (b) 40° (c) 50° (d) 60°

51. If the ratio between the length of two corresponding sides in two similar triangles is equal to 1, then the two triangles are
 (a) congruent. (b) different. (c) parallel. (d) otherwise.

52. If the ratio of enlargement between two similar triangles equals
 , then the two triangles are congruent.
 (a) 1 (b) 2 (c) 0.5 (d) 0.25

53. If $\Delta ABC \sim \Delta DEO$, $AB = \frac{1}{3} DE$, then the perimeter of ΔABC equals the perimeter of ΔDEO
 (a) $\frac{1}{3}$ (b) $\frac{1}{2}$ (c) 3 (d) 9

54. Trapezium of length of its middle base 8 cm. and surface area 56 cm^2 ,
 then its height = cm.
 (a) 32 (b) 24 (c) 448 (d) 7

55. The area of the trapezium whose middle bases 7 cm., and height 6 cm. = cm^2
 (a) 21 (b) 42 (c) 40 (d) 13

Complete:

56. A trapezium whose bases lengths are 8 cm., 10 cm. and its height is 5 cm., then its area equals 45 cm^2

57. The two polygons are similar if their corresponding sides are and their corresponding angles are **Proportional**

58. The area of a rhombus is 24 cm^2 , the length of one of its diagonals is 8 cm., then the length of the other diagonal is 6 cm

59. The square whose length of its diagonal 8 cm., then its area = 32 cm^2

60. If $\Delta ABC \sim \Delta XYZ$, $m(\angle A) + m(\angle B) = 60^\circ$, then $m(\angle Z) = \dots$

61. The area of the trapezium whose parallel bases 6 cm., 10 cm. and height 5 cm. equals 40 cm^2

62. The two polygons are similar to a third are **similar**

63. The area of rhombus whose perimeter is 20 cm. and height 4 cm. = 20 cm^2

64. The diagonal of a square whose area 50 cm^2 equals 10 cm .

65. A square of diagonal length 12 cm., then its area = 72 cm^2